

**REMARKS:**

**I. Status of the Claims/Rejoinder of Non-Elected Claims**

Claims 1, 18, 19, 21, 37 and 44 have been amended.

Claims 1-37 were previously withdrawn. Rejoinder of these claims is now respectfully requested, as they have been amended to define a common patentable element (microchip first layer and second layer structure as defined).

Claims 2, 18-19, 21, 37 and 44 have been amended.

No new matter has been added.

Claim 44 is now amended so as to be dependent on claim 37, as suggested by the Examiner. Withdrawal of the pending rejection is respectfully requested.

**II. Substance of Interview with Examiner Ball/Martin et al. (2002)**

Applicants thank Examiner Ball for the Interview conducted on February 28, 2011 and on April 1, 2011. The present statement of the substance of that interview is timely filed.

Claim 44 was discussed, and amendment to make the claim dependent on claim 37 has been made in the present amendment.

The outstanding rejection over the Martin et al. (2002) reference was discussed. It was pointed out that the device employed in the presently claimed process is comprised of a first layer and a second layer, the second layer being absent a separation channel, a conductive element and a detection channel. Among other reasons, these characteristics distinguish the present device from Martin. In Martin, both layers of the device includes a channel feature (See Martin, pg. 1138, "Chip Designs. Poly (dimethylsiloxane) (PDMS)-based microfluidic devices with carbon fiber working electrodes were fabricated as previously described. This procedure entailed the fabrication of two separate PDMS layers, one containing the separation and injection channels and one containing an electrode channel for the carbon fiber.").

As noted in Applicant's specification (paragraph 44), the placement of the detection channel and the separation channel within a single layer, rather than in separate

layers, provides several advantages. For example, this arrangement eliminates the problem associated with the Martin et al. device for electrode alignment, among other advantages. With the present device, the difficulty associated with electrode alignment within the device is eliminated because the electrodes (the first and second conductive elements) are within a single layer. This eliminates the need for use of an XYZ positioner to achieve electrode alignment, among other advantages.

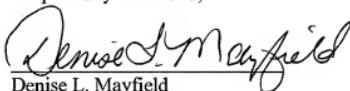
The claims have been amended to even more clearly highlight this distinction. The claims as amended are submitted to now be in even further condition for allowance. Withdrawal of the rejections and allowance of the claims is respectfully requested.

### **III. Conclusion**

Applicants submit that the claims as presented herein are now in further condition for allowance or appeal. The Examiner is invited to telephone the undersigned representative at 202-625-3676 should the Examiner have any questions or comments that would expedite issuance of the present application.

The Commissioner is hereby authorized to charge Attorney's Deposit Account Number 50-1710 for any fees which are due and owing.

Respectfully submitted,



Denise L. Mayfield  
Attorney for Applicant  
Registration No. 33,732

PATENT ADMINISTRATOR  
KATTEN MUCHIN ROSENMAN LLP  
2900 K Street, N.W.  
Suite 200  
Washington, D.C. 20007-5118